Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] A simulation system for simulating an operation of an automotive vehicle comprising:
an input providing vehicle information and path information;
a controller having a vehicle computer model therein, said controller programmed to determine a curvature of an intended path from the path information, determine a look ahead scale factor as a function of the intended path, determine a look ahead point as a function of the look ahead scale factor, determine a steering wheel angle input to the computer model by comparing the look ahead point and the intended path, operate the computer model with the steering wheel angle input, and generate an output in response to the vehicle model and the initial steering wheel input or the first steering wheel input.

[c2] A system as recited in claim 1 wherein the look ahead scale factor is directly proportional to a curvature of the intended path.

[c3] A system as recited in claim 1 wherein the look ahead scale factor is about 62 percent of a maximum scale fac-

tor.

[c4] A method of operating a vehicle computer model having vehicle information and path information therein comprising:
determining a curvature of an intended path from the path information;
determining a look ahead scale factor as a function of the intended path;
determining a look ahead point as a function of the look ahead scale factor;
determining a steering wheel angle input to the computer model by comparing the look ahead point and the intended path; and
operating the computer model with the steering wheel angle input.

[c5] A method as recited in claim 4 wherein the look ahead scale factor is directly proportional to a curvature of the intended path.

[c6] A method as recited in claim 4 wherein the look ahead scale factor is about 62 percent of a maximum scale factor.

[c7] A method of operating a vehicle computer model having vehicle information and path information therein com-

prising:

determining a curvature of an intended path from the path information;

determining a look ahead scale factor as a function of the intended path;

determining a look ahead point as a function of the look ahead scale factor;

when the vehicle is not on target, determining a steering wheel angle input to the computer model by comparing the look ahead point and the intended path;

operating the computer model with the steering wheel angle input; and

when the vehicle is on target, maintaining a previously determined steering wheel angle.

[c8] A method as recited in claim 7 wherein the look ahead scale factor is directly proportional to a curvature of the intended path.

[c9] A method as recited in claim 7 wherein the look ahead scale factor is about 62 percent of a maximum scale factor.